

**COMMENTS RECEIVED TO DATE REGARDING  
THE CLIFTY CREEK STATION  
SOUTH FLY ASH POND  
COAL ASH RETENTION DAM  
JEFFERSON COUNTY, INDIANA**

The following comments were received with respect to the South Fly Ash Pond at the Clifty Creek Facility. All were addressed in the Report version entitled Draft Final Report-Version 1. **Note GZA has yet to receive any comments on the South Fly Ash Pond from Lockheed Martin or the Indiana State Regulators.**

#### **COMMENTS ON WEST BOTTOM ASH POND FROM EPA**

-----Original Message-----

From: Killeen, Deborah A [mailto:deborah.a.killeen@lmco.com]  
Sent: Wednesday, August 05, 2009 5:00 PM  
To: peter.baril@gza.com  
Cc: James Guarente; Miller, Dennis A; Hoffman.Stephen@epamail.epa.gov; Kohler.James@epamail.epa.gov  
Subject: FW: EPA Comments on GZA's Draft Assessment Reports for: American Electric Power - Clifty Creek Generating Plant

Peter,

Here are EPA's comments on GZA's Draft Assessment Reports for: American Electric Power - Clifty Creek Generating Plant:

South Fly Ash Pond Report Comments:

- 1) Exec Summ, third bullet, should read "be repaired"
- 2) Page 5 seems to indicate that the INDNR classifies the dam as a "Significant" hazard, yet page 2 of the EPA inspection form states that INDNR classified this dam as a "low hazard". Clarify.
- 3) Page 9, section 2.0, list other state/EPA/company participants beyond GZA inspectors.

Deborah A Killeen  
Quality Assurance Officer  
Lockheed Martin/REAC  
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732-494-4021 (fax)

#### **GZA'S INITIAL RESPONSE TO EPA COMMENTS ON SOUTH FLY ASH POND**

-----Original Message-----

From: Peter Baril [mailto:peter.baril@gza.com]  
Sent: Wednesday, August 05, 2009 6:03 PM  
To: 'Killeen, Deborah A'  
Cc: 'James Guarente'; 'Miller, Dennis A'; Hoffman.Stephen@epamail.epa.gov; Kohler.James@epamail.epa.gov; Walter Kosinski  
Subject: RE: EPA Comments on GZA's Draft Assessment Reports for: American Electric Power - Clifty Creek Generating Plant

Deborah:

Thank you for your comments.

To answer your question on the hazard classification of both dams, the EPA inspection form, where we indicated low hazard per INDNR criteria, was filled out immediately after our field inspection and before we went thoroughly through the existing data provided to us by AEP.

South Fly Ash was definitely rated as Significant based on a copy of INDNR's latest inspection report from last year. They do not formally inspect the West Bottom Ash Dam, but we were told by AEP engineering staff that the hazard class would likely be low. However, on our further review of INDNR regulations, the dam, if under jurisdiction by INDNR, would be rated significant, in GZA's opinion. It is unclear at this time, whether West Bottom dam is under INDNR jurisdiction. I've been trading voice messages with them on this issue.

We simply forgot to change the EPA inspection forms, which we will now do for the final versions.

Also, we did indicate to representative of AEP and IKEC, that we would provide them the courtesy of reviewing the final draft report before we produced it final. Please let me know if either EPA or LM has any issue with this approach. We feel it is a very good idea for them to review the draft report and comment at this time.

Regards,

Peter H. Baril, P.E.  
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[pbaril@gza.com](mailto:pbaril@gza.com)

The following additional comment was received with respect to the South Fly Ash Pond.

**From:** "Miller, Dennis A"  
**Date:** Thu, 23 Jul 2009 11:28:01 -0400  
**To:** peter.baril@gza.com<peter.baril@gza.com>  
**Subject:** FW: TDF 5

Please note the additional questions that Steve wants addressed in revised CCW impoundment assessment reports.

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**From:** Hoffman.Stephen@epamail.epa.gov [mailto:Hoffman.Stephen@epamail.epa.gov]  
**Sent:** Thursday, July 23, 2009 11:09 AM  
**To:** Miller, Dennis A; Killeen, Deborah A  
**Cc:** Ur.Nancy@epamail.epa.gov; Kane.Gloria@epamail.epa.gov; Zownir.Andy@epamail.epa.gov  
**Subject:** TDF 5

The TVA failure mode analysis report for the Kingston embankment failure was made public several weeks ago. One of the key findings was that the unit may have failed because the embankment was built upon coal ash slimes. I am directing LM to contact all of its subs and have them reassess each of the draft reports it has already completed and have them answer the following questions for each facility and unit studied:

- Concerning the embankment foundation, was the embankment construction built over wet ash, slag, or other unsuitable materials? If there is no information just note that.
- Did the dam assessor meet with, or have documentation from, the design Engineer-of-Record concerning the foundation preparation?
- From the site visit or from photographic documentation, was there evidence of prior releases, failures, or patchwork on the dikes?

Stephen Hoffman  
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U.S. Environmental Protection Agency  
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over overnight package delivery:  
2733 Crystal Drive, 5th Floor  
Arlington, Va. 22202

In addition to it being addressed in the Report, GZA also sent the following email response to Mr. Dennis Miller.

**From:** James Guarente [mailto:james.guarente@gza.com]  
**Sent:** Friday, August 21, 2009 4:28 PM  
**To:** 'dennis.a.miller@lmco.com'  
**Cc:** 'abjarngard@gza.com'; 'frank.vetere@gza.com'; 'pbaril@gza.com'; 'Walter Kosinski'; 'rpalermo@gza.com'; 'whoever@gza.com'  
**Subject:** responses to questions

Dennis,

Below are GZA's responses to your recent set of questions. Each will be expanded upon (as necessary) and incorporated into the respective assessment report as appropriate.

Regarding the west bottom ash and south fly ash dams at Clifty Creek:

Question 1 "Concerning the embankment foundation, was the embankment construction built over wet ash, slag or other unsuitable materials? If there is no information just note that." – Although there was no specific record drawings, the embankments were constructed at the time of the plant construction and utilized the native clay soils from the area; i.e., wet ash and slag were not available and therefore we believe the embankment foundations were natural soil. This was confirmed in the south fly ash dam as they performed several borings after dam construction and boring logs indicated that the embankment was founded on natural/native soil. Also, communication (letters) from Arthur and Leo Casagrande, the embankment design consultants, indicated that the dams were to be constructed of native clay soils.

Question 2 "Did the dam assessor meet with, or have documentation from, the design Engineer-of-Record concerning the foundation preparation?" – We did not meet with the design Engineer-of-Record. Documentation reviewed indicated that Arthur and Leo Casagrande provided recommendations for embankment construction and also visited the site during construction.

Question 3 "From the site visit or from photographic documentation, was there evidence of prior releases, failures, or patchwork on the dikes?" Overall, no... issues that were encountered during construction of the south fly ash dam on the upstream slope were corrected at the time of construction. Routine maintenance has occurred but I don't believe we would classify that as "prior releases, failures or patchwork..."

Do not hesitate to contact us should you have any questions.

Regards,  
Jim Guarente, P.E.  
Project Manager  
GZA GeoEnvironmental, Inc.  
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## COMMENTS ON SOUTH FLY ASH POND FROM UTILITY

### FIRST SET

-----Original Message-----

From: Killeen, Deborah A [mailto:[deborah.a.killeen@lmco.com](mailto:deborah.a.killeen@lmco.com)]

Sent: Tuesday, August 11, 2009 2:11 PM

To: [peter.baril@gza.com](mailto:peter.baril@gza.com)

Cc: [Hoffman.Stephen@epamail.epa.gov](mailto:Hoffman.Stephen@epamail.epa.gov); [Kohler.James@epamail.epa.gov](mailto:Kohler.James@epamail.epa.gov); Miller, Dennis A; Jim Guarente (GZA)

Subject: RE: Company comments on Draft Report for IKEC's Clifty Creek Station

Peter,

Below please find Indiana Kentucky Electric Company's comments on the Clifty Creek Station Draft Final Report.

EPA has reviewed the comments and believe they are limited to factual/editorial issues. They should be verified and incorporated accordingly.

Ultimately, EPA would like to include all original comments (EPA/state/facility) in a separate appendix in the Final Report. EPA will prepare a response to comments page which will be placed in front of the original comments in the Appendix.

#### South Fly Ash Pond Report

1. Executive Summary Page - Third Bullet Item - "repairs" should read "replaced".
2. Report Page 1 - Footnote indicates that American Electric Power is the parent company of Indiana-Kentucky Electric Corporation - Reword or Eliminate reference.
3. Report Page 2 - Section 1.2.2 Table - Probably don't want 911 for the emergency phone number for the Dam Owner or the Dam Caretaker.
4. Report Page 4 - Third Paragraph - Second sentence doesn't make sense in present form. Consider rewording.
5. Report Page 4 - Fourth Paragraph - Third Sentence - "outlet" should read "outlets".
6. Report Page 5 - First Continued Paragraph - Last Sentence - "as the SFAP was no longer sluicing ash" should read "the SFAP was no longer receiving sluiced ash".
7. Report Page 5 - Section 1.2.6 - "purposed" should read "purpose".
8. Report Page 6 - Section 1.3.3 - Consider adding note that the pond only discharges during, and immediately following a rainfall event.
9. Report Page 6 - Section 1.3.4 - States "Elevations are based upon the USGS topographic map MSL datum.". It appears that the listed elevations are spot elevations from the mapping provided which is in NAD27/NAVD88 Indiana East.
10. Report Page 7 - Section 1.3.6 - Second Paragraph - Second Sentence - "consistent" should read "consisting".
11. Report Page 8 - Section 1.3.8 - Second Bullet Set - Second Bullet - Last Line - "joint" should read "joints".
12. Figure No. 1 Through Figure No. 4 - Data Source Description - "SPACIAL" should read "SPATIAL".
13. Figure No. 2 Through Figure No. 4 - Data Source Description - "IMAGERT" should read "IMAGERY".
14. Figure 5 - Title Block - "South Bottom Ash Pond Dam" should read "South Fly Ash Pond Dam".
15. Figure 5 - Under "Notes" Heading - "IN AN FILE" should read "IN A FILE".
16. Figure 6 - Title Block - "South Bottom Ash Pond Dam" should read "South Fly Ash Pond Dam".
17. Figure 6 - Under "Notes" Heading - "IN AN FILE" should read "IN A FILE".
18. Appendix A - Limitations - Item 2 - "Indiana-Kentucky Energy Corp." should read "Indiana- Kentucky Electric Corp.".
19. Dam Safety Inspection Checklist v.3.1 - Page 3 - Probably

don't want 911 for the emergency phone number for the Dam Owner or the Dam Caretaker.

20. Dam Safety Inspection Checklist v.3.1 - Page 5 - Lines 3 and 7 have scarp repair recommended. However, repair isn't a recommendation in Section 3.0 of the Report. Rather, monitoring is suggested under Item 2 of Section 3.1 of the Report. Should these be repaired at this time or monitored?

21. Dam Safety Inspection Checklist v.3.1 - Page 6 - Line 5 indicates the need to repair minor erosion of the upstream slope.

Didn't see where upstream erosion was noted in the report.

22. Dam Safety Inspection Checklist v.3.1 - Page 8 - Line 6 is checked "yes" for "vandalism or trespass". Was this discussed during the site visit?

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## SECOND SET

-----Original Message-----

From: Kohler.James@epamail.epa.gov [mailto:Kohler.James@epamail.epa.gov]  
Sent: Monday, August 17, 2009 3:55 PM  
To: Miller, Dennis A; Killeen, Deborah A  
Cc: Hoffman.Stephen@epamail.epa.gov  
Subject: Company Comments on Clifty Creek Station Draft Report

Dennis and Deb:

Attached are comments from the company on the Clifty Creek Station Draft Report.

We have reviewed the comments and believe they are primarily limited to factual/editorial issues. They should be verified and incorporated accordingly. Two exceptions:

>For the fly ash run-off pond they comment: "Checklist, Pg 6, group "Embankment", item #3, The nesting holes that the type of turtles that we have in this pond are very, very, small, and pose no threat to the dam. We think the requirement or recommendation to monitor these turtle nesting holes should be deleted." If you don't agree with this or any other comments, we suggest inserting a footnote or comment into the report that says: "In comments, the company disagrees..." or "The company asserts that..." We want to be clear that we are not asking you to agree with the company or change the report; we just want to indicate that there was a difference of opinion - that doesn't alter the PE's ultimate decision. We want to be sure you are comfortable with this approach.

Ultimately, we would like to include all original comments

(EPA/state/facility) in a separate appendix in the Final Report. EPA will prepare a response to comments page which will be placed in front of the original comments in the Appendix.

If you have any questions or concerns with these directions please feel free to call me or Steve. Thanks!

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Jim Kohler, P.E.  
Environmental Engineer  
LT, U.S. Public Health Service  
U.S. Environmental Protection Agency  
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Forwarded by James Kohler/DC/USEPA/US on 08/17/2009 03:31 PM  
From: dfulkers@ovec.com  
To: Stephen Hoffman/DC/USEPA/US@EPA  
Cc: [ccarnes@ovec.com](mailto:ccarnes@ovec.com), James Kohler/DC/USEPA/US@EPA, [msmith@ovec.com](mailto:msmith@ovec.com),  
[pdelamer@ovec.com](mailto:pdelamer@ovec.com), [pjamaya@aep.com](mailto:pjamaya@aep.com), [thowdysHELL@aep.com](mailto:thowdysHELL@aep.com)  
Date: 08/17/2009 02:03 PM  
Subject: Fw: Draft Reports on Impoundment Site Assessments at IKEC's Clifty Creek Station

Mr. Hoffman,

The following is our second and final set of comments on the above-referenced draft reports. These comments are from Mr. Paul de Lamerens of Clifty. If you have any questions concerning these comments, please contact Paul at (812) 265-8715.

Comments to GZA Draft Reports: Fly Ash Runoff Collection Pond

Pg 1 - footnote 1, our parent company is the Ohio Valley Electric Corporation

Pg 2, 1.2.2 - please add the period after the middle initial "A" in de Lamerens' name

Pg 2, 1.2.2 - emergency phone should be 812 265 8738

Pg 2, 1.2.3 - line 6 change "they" to "the"

Pg 2, 1.2.4 - add "property" after "Plant" in line 3, add "above the toe" after "70 feet"

Given the elevations, don't they vary between 502.9 and 505.1?

Pg 3, 1.2.4 - paragraph 3, either the dredge study should be capitalized or footnoted

Pg 4, paragraph 1, Indiana Department of Environmental Management (IDEM) not IDNR, Outfall 001 not 002, also 15 feet, not 10



Pg 5, line 4 - insert "receiving" between "longer" and "sluiced", change "sluicing" to "sluiced"

Pg 6, 1.3.2 - change "495" to "499" as stated earlier in 1.2.5 (consistency)

Pg 7, 1.3.6 - line 2, remove apostrophe from "Casagrande's"

Pg 7, 1.3.6 - is Casagrande no longer considered a leading engineer?  
AEP is not the  
owner, they were the owner's representatives

Pg 10, 2.1 - elevation of pond was 484.2? this does not match with other elevations

Pg 10, 2.1.5 - We do not have a floating debris boom, we have an oil skimmer

Pg 10, 2.2 - Mowing and maintenance is performed by plant personnel

Pg 12, 3.1.3 - We do not have a floating debris boom, we have an oil skimmer

Pg 14, 3.3.3 - task has been completed

Pg 14, 3.3.4 - there is no sink hole at the fly ash dam

Figure 1 - could they use one that shows less water, like figure 2?

Picture 18 - oil skimmer

EPA form, Pg 1 - item 2 pool level, consistency, either 484.2, 485.3 whichever

EPA form, Pg 1 - item 5, lowest elevation should be 502.9

EPA form, Pg 2 - change bottom ash to fly ash

EPA form, Pg 3 - pool area in write-up is 36 acres

EPA form, Pg 3 - freeboard is not max at 20 feet

EPA form, Pg 5 - either yes with explanation or no without one

EPA form, Pg 8 - the receiving stream is the Ohio River

Checklist, Pg 6, group "Embankment", item #3, The nesting holes that the type of turtles that we have in this pond are very, very, small, and pose no threat to the dam. We think the requirement or recommendation to monitor these turtle nesting holes should be deleted. Seriously, this is not an issue!

Thanks, Don

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----- Forwarded by Donald T. Fulkerson/OVEC/US on 08/17/2009 01:36 PM

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